

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently Amended) A diagnostic method for a fuel cell comprising a plurality of cells, comprising:

supplying an anode of the fuel cell with hydrogen or a hydrogen-containing gas;
supplying a cathode with an inert gas or vacuuming the cathode;
measuring a gas pressure at the anode;
measuring a gas pressure at the cathode;
measuring a voltage of each cell under a condition in which the hydrogen or the hydrogen-containing gas is supplied to the anode of the fuel cell and the inert gas is supplied to the cathode or the cathode is vacuumed, wherein an operation state of the fuel cell battery is changed when measuring the voltage of a cell; and

introducing a cooling medium into the fuel cell;

changing a temperature of the cooling medium when measuring the voltage of each cell;

and

determining an amount of cross-leak based on the measured gas pressure at the anode, the measured gas pressure at the cathode, and on a measured voltage of each cell.

2. (Original) The diagnostic method according to claim 1, wherein in the determining step, an amount of hydrogen cross-leak of each cell is determined from the measured voltage of each cell generated based on a principle of a hydrogen concentration cell.

3. (Previously Presented) The diagnostic method according to claim 1, further comprising:
detecting an amount of the inert gas supplied to the cathode; and

calculating an amount of cross-leak based on the pressure of the hydrogen-containing gas at the cathode, on the total pressure of the inert gas supplied to the cathode, and on the amount of the inert gas supplied to the cathode.

4. (Original) The diagnostic method according to claim 1, wherein the voltage of each cell is measured in a state where the plurality of cells are stacked.

5. (Original) The diagnostic method according to claim 1, further comprising changing at least one of the gas pressure at the anode and the gas pressure at the cathode when measuring the voltage of each cell.

6. (Canceled).

7. (Original) The diagnostic method according to claim 1, wherein the inert gas supplied to the cathode is nitrogen.

8. (Currently Amended) A diagnostic method for a fuel cell battery comprising a plurality of cells, comprising:

supplying an anode of the fuel cell battery with hydrogen or a hydrogen-containing gas;
measuring a gas pressure at the anode;
measuring a gas pressure at the cathode;
measuring a voltage of each cell under a condition in which the hydrogen or the hydrogen-containing gas is supplied to the anode of the fuel cell and the cathode is vacuumed;
and

introducing a cooling medium into the fuel cell;

changing a temperature of the cooling medium when measuring the voltage of each cell;

and

determining an amount of cross-leak based on the measured gas pressure at the anode, the measured gas pressure at the cathode, and on a measured voltage of each cell.

9. (Previously Presented) The diagnostic method according to claim 8, wherein in the determining step, an amount of hydrogen cross-leak of each cell is determined from the measured voltage of each cell generated based on a principle of a hydrogen concentration cell.
10. (Previously Presented) The diagnostic method according to claim 8, wherein the voltage of each cell is measured in a state where the plurality of cells are stacked.
11. (Previously Presented) The diagnostic method according to claim 8, further comprising changing at least one of the gas pressure at the anode and the gas pressure at the cathode when measuring the voltage of each cell.
12. (Canceled).